

APPENDIX A: Detailed Proposed Action

Proposed Activities

The components of the proposed action are listed as follows:

Forest Resilience Treatments: Proposed activities to improve forest resiliency include mechanically thinning from below approximately 450 acres. The thinning treatments proposed will not remove any trees greater than 21" dbh. Prescriptions will focus on retaining healthy and vigorous dominant and co-dominant early seral conifer species. Prescriptions are designed to reduce stand densities to a relative stand density (SDIrel) between 25 and 40 percent of maximum (SDImax). Maintaining stands within this density management zone will greatly reduce the existing levels of inter-tree competition. Outside of the approximately 70 acres of thinning in even-aged lodgepole stands the residual basal area will generally vary between 80ft² and 160ft². Thinning within the even-aged lodgepole pine stands will be from below to a residual basal area between 40-60 ft². No mechanized equipment will operate in Riparian Habitat Conservation Areas (RHCAs) adjacent to forest resiliency treatment units. See Table 1 of the Decision Memo page 2 for a summary of units, acres and pre- and post-treatment basal area.

Resiliency thinning units would be followed by a post-harvest fuels reduction thinning up to 7" at dbh. The post-harvest fuels thinning within these stands will generally leave around 50 understory trees per acre (tpa). (For this project understory trees are defined as those trees between 1-7" dbh and at least 4.5' tall.) Spacing of retained understory trees will generally be of a variable distribution between 20 and 30 feet. Within America marten (*Martes americana*) source habitat approximately five percent of the retention would be clumped to provide cover. Piling of existing or natural fuels within marten source habitat would strive to leave approximately five percent of these natural fuels in discontinuous piles for cover and denning habitat.

The Lostine River road would be used as a haul route for commercial haul activities. Haul will be limited to dry or frozen conditions. The Lostine River road will be maintained to standard to protect road surfaces, to reduce potential for erosion, and lessen effects to aquatic habitat. Maintenance would include spot rocking, blading, and drainage work to reduce erosion from the road surface. Snow plowing would occur during winter haul.

In order to process harvest material away from the main Lostine road and access forest resiliency treatment units, approximately 1.5 miles of temporary road will be constructed. Temporary roads will be short, low gradient spurs off of Lostine River road. Temporary roads will not be located in RHCAs. Temporary roads will be decommissioned following haul activities. Forest Service National Best Management Practices (BMPs) will be used during construction, use, and decommissioning of temporary roads (ref: FS-990a, pp. 114-115).

Group Select Units – Six group selection units (units 8a, 8b, 9a, 10, 11a, 11b) of up to 2 acres

each are proposed in even-aged lodgepole dominated stands to create variability in stand structure and composition by re-planting with fire resistant western larch (Table 1). Some dead lodgepole will be harvested and decked for public fuelwood utilization.

These lodgepole pine units will be planted with western larch seedlings. This activity addresses the purpose and need by changing the structure and composition of the stands to more resistant species. Site preparation of the group select units may include windrowing and burning activity fuels.

Patch Cut Units – Three patch cuts of up to 2 acres are planned. Two of the patch cuts (units 18a, 19a) are proposed to create strategic fuel breaks that generally connect the Lostine River Access Road to natural upslope fuel breaks. Trees over 21” dbh will be retained in these patch cut units. Where no trees greater than 21” dbh occur in the patch cut units, up to five overstory trees per acre will be retained. Maintenance of desired stand characteristics will occur as needed in the future to maintain the effectiveness of the treatment.

One patch cut unit (Unit 17a) is proposed adjacent to Turkey Flat to serve as a helispot for emergency ingress and egress for both wildfire suppression and medevac purposes. Currently, aside from the stock trailer parking lot at the Two Pan Trailhead (which is usually full during the summer months) there are no adequate helispot sites within the project area. Maintenance of desired stand characteristics will occur as needed in the future to maintain the effectiveness of the treatment.

Table 1. Patch cut and group select units for the Lostine Corridor Project.

Unit #	Acres	Objective
8A	2	Group select; Species diversity. Replant with larch
8B	3	Group select; Species diversity. Replant with larch
9A	2	Group select; Species diversity. Replant with larch
10	2	Group select; Species diversity. Replant with larch
11A	2	Group select; Species diversity. Replant with larch
11B	2	Group select; Species diversity. Replant with larch
17A	2	Patch cut, Helispot
18A	2	Patch cut, Strategic Fuel Break
19A	2	Patch cut, Strategic Fuel Break

Fuels Thinning Treatments: Small diameter hand thinning will occur throughout most of the 2,110 acre project area both outside and within the resiliency thinning units. These treatments will be excluded from the *no-activity* RHCA zones and within some recreation sites to maintain desired levels of screening between designated campsites. Understory retention will focus first

on retaining early seral species such as western larch and ponderosa pine, followed by heathy and vigorous Douglas-fir, Engelmann spruce and true firs (grand, white, and subalpine). Mountain hemlock and native hardwoods encountered will be reserved.

Slash created from hand thinning accomplished within the *limited activity* RHCA buffers and on slopes greater than 35 percent will be hand-piled. Slash created from thinning on slopes less than 35 percent may be grappled piled with heavy equipment when soil moistures are low enough to minimize impacts to soil resources; typically less than 25 percent.

Fuels thinning within limited activity RHCA buffers will be up to 12" in dbh. In even-aged lodgepole stands with very narrow and small diameter distributions, trees will generally be spaced to retain between 100 and 200 tpa. Spacing will range between 14 and 20 feet between reserve trees. Trees within 50 feet of private property boundaries will be pruned of ladder fuels up to approximately 20 feet.

Downed wood resulting from thinning ("activity fuels") and natural fuels (≤ 12 " dbh) that are in excess of ecological needs within forest resiliency treatment units will be machine piled and burned, or made available for fuelwood, where appropriate. No mechanized equipment, including for piling, will be operated in RHCAs.

Fuelwood: Downed wood that is in excess of ecological needs may be available, by permit, for collection as personal use fuelwood. These areas will be designated where appropriate, taking into consideration sensitive resources.

Hazard Tree Mitigation: Hazard trees are defined as any tree or tree part that is within striking distance of a permanent or transitory target of value (Field Guide for Hazard-Tree Identification and Mitigation on Developed Sites in Oregon and Washington Forests, 2014). Forest Service policy requires the agency to mitigate hazard trees. The proposed treatment would be to remove or trim trees, regardless of diameter, that pose a hazard to recreation sites, roadways, administration sites, identified historical significant areas, and private lands, following R-6 direction¹.

Hazard tree zones in the project area are located: 1) along Lostine River Road, 2) around administration sites and identified historical significant areas, and 3) in and around developed recreation sites.

Lostine River Road – Identification and mitigation of hazard trees will follow protocols in the 2008 "*Field Guide for Danger Tree Identification and Response*" (R6-NR-FP-PR-01-08; <http://www.blm.gov/or/districts/medford/plans/files/fieldguidedangertree.pdf>). The hazard tree zone along the Lostine River Road will extend about 200ft on either side of the road. All hazard trees adjacent to the Lostine River Road would be felled. A combination of mechanical felling

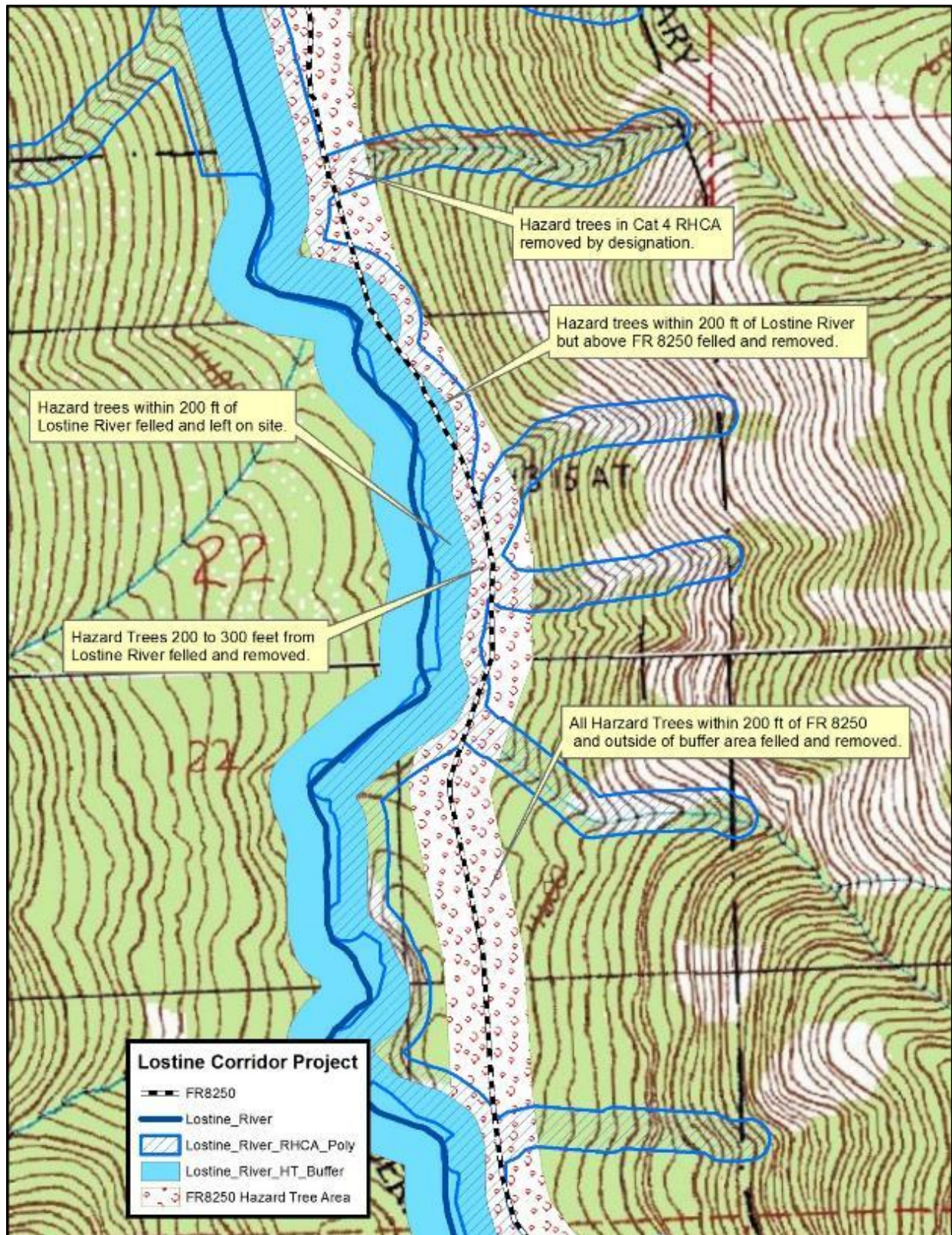
¹ Forest Service Manual, Chapter 2330, Supplement 2300-2011-1; *Publicly Managed Recreation Opportunities, Field Guide for Hazard-Tree Identification and Mitigation on Developed Sites in Oregon and Washington Forests*, USDA Forest Service PNW Region, 2014; *Field Guide for Danger Tree Identification and Response*, USDA Forest Service PNW Region, and USDI Bureau of Land Management, 2008; and PNW Regional Forester Pena letter, May 27, 2016 – *Developed Recreation Site Safety – Hazard Tree Inspection and Mitigation*.

from the road and hand felling will be used. Removal of hazard trees within RHCA's would occur with mechanized equipment operated from the Lostine River Road.

- a. Hazard trees within the Category 1 RHCA adjacent to the Lostine River will be felled and removed. Felled trees *within* 200ft of the Lostine River will be left on site; except as described below. Hazard trees *greater than* 200ft from the Lostine River will be felled and removed.
 - Hazard trees within the Lostine River RHCA that are located on the *uphill* side of the Lostine River Road will be felled and then removed with use of equipment working from the roadway.
 - Hazard trees within 200ft of the Lostine River that are located on the *downhill* side of the Road that cannot be safely felled away from the road would be felled and removed as above.
- b. Hazard trees within the Category 1 RHCA adjacent to Lake Creek will be felled. Determination whether to remove felled trees will be made on a case by case basis.
- c. Hazard trees within Category 2 RHCAs will be felled. Determination whether to remove felled trees will be made on a case by case basis. Generally, hazard trees within 100ft of Category 2 streams would be felled and left on site; except trees that cannot safely be felled towards the stream. These trees would be felled and then removed with use of equipment working from the roadway. Hazard trees greater than 100ft from Category 2 streams will be felled and removed.
- d. Hazard trees within Category 4 RHCAs will be felled. Determination whether to remove felled trees will be made on a case by case basis.

Figure 1 provides an example of how the various scenarios involved with the hazard tree mitigation activities will be implemented.

Figure 1. Example of how the various scenarios involved with the hazard tree mitigation activities will be implemented.



Developed Sites, which include administration, historical, and recreation sites – Hazard trees in and adjacent to developed sites would be felled. Where these sites are located in RHCAs hazard trees would be left on site where it is safe to do so. Felled hazard trees that interfere with the use of the site would be removed.

Table 2. Summary of activities that may occur within RHCAs

RHCA Category	Resiliency Thinning	Fuels Thinning	Pile burning	Machine Piling	Danger tree felling	Removal of Danger trees
Category 1 No Activity Zone (200' from edge of stream channel)	None	None	None	None	Yes	Limited*
Category 1 Limited Activity Zone (200' to 300' from edge of stream channel)	None	Yes	Yes	None	Yes	Yes
Category 2 No Activity Zone (75' from edge of stream channel)	None	None	None	None	Yes	Limited*
Category 2 Limited Activity Zone (75' to 150' from edge of stream channel)	None	Yes	Yes	None	Yes	Yes
Category 4 No Activity Zone (50' from edge of stream channel)	None	None	None	None	Yes	Limited*
Category 4 Limited Activity Zone (50' to 100' from edge of stream channel)	None	Yes	Yes	None	Yes	Yes

*Limited removal of danger trees within the no activity zone of streams will primarily occur on the east side of the Lostine Access Road where Category 2 and 4 streams intersect and run through culverts underneath the road, or where the Lostine access road is completely within the Category 1 RHCA. These danger trees will be assessed on a case by case basis by agency specialists to determine whether felled trees will be left on site removed. No heavy equipment will be used within the entirety of the RHCA (with the exception of the road prism that crosses these streams) to remove danger trees.

Design/Mitigation Features

Silviculture:

GN-1- Where possible, treatment unit boundaries will try to resemble the shape of natural openings in the surrounding area, follow natural topographic breaks, and changes in vegetation.

GN-2 – Where possible create up to ½ acre gaps in upland thinning units adjacent to viable western larch seed trees. Gaps should not represent more than five percent of any unit's total area.

GN-3 - Culture around viable dominant western larch and ponderosa pine by selecting all conifers less than 21" dbh for removal within a ten foot radius from the drip line of the released tree's crown. Viable trees will have at least a 30% live crown ratio and no indicators of insect or disease infestation.

GN-4 - Reserve clumps around shallow rooted trees (e.g. Engelmann spruce) to reduce the risk of windthrow

GN-5 – Where possible feather retention adjacent to RHCA's, leaving slightly higher densities to reduce potential of strong visual contrasts in vegetation between thinned units and dense RHCA growth

GN-6 - In thinning units, retain some of the leave trees in groups or clumps.

GN-7 - Clump residual lodgepole to minimize the risk of windthrow in units 8, 9 & 11

GN-8 - Down wood less than 12" diameter at the large end that is in excess of ecological needs, and that would otherwise be piled and burned, may be authorized for removal.

GN-9 - When possible limit processing, decking, loading, and slash pile locations to landings off Lostine River road (except the hazard tree mitigation unit) to reduce visibility of these activities.

GN-10 - Limit haul on Lostine River road during July 1-September 30 to reduce noise and traffics impacts to visitors.

GN-11 - Reduce resource impacts to sensitive resources by conducting certain types of implementation during winter time or similar conditions.

GN-12 - Block and rehabilitate all temporary roads and landings within 3 years after completion of project.

Cultural and Heritage:

CR-1-- Avoid and protect known historic properties during project implementation

CR-2-- In the event that new cultural sites are discovered, ground-disturbing activities in the immediate vicinity of the discovery will cease until the Forest Service is notified and the Oregon SHPO and potentially affected Indian Tribes are consulted.

CR-3-- Conduct treatment activities adjacent to historic properties as described in the project

Heritage and Cultural report and in a manner consistent with the purpose and need for this project.

Invasive Weeds:

IW-1-- To avoid or reduce the risk for introduction of invasive weed seeds and propagates, provisions will be included in all contracts to ensure contractor off-road equipment is cleaned. Provisions should include requirements that prior to moving onto the project area, all contractors and/or purchasers will be required to ensure that all off-road equipment is free of soil, seeds, vegetative matter, or other debris that could contain invasive weed seeds.

IW-2-- Seed mixes and/or plant materials (including straw or hay) used during restoration and soil erosion prevention activities will be certified invasive weed-free.

IW-3-- Inspect active gravel, fill, sand, stockpiles, quarry sites, and borrow material for invasive plants before use and transport. Treat or require treatment of infested sources before any use of pit material. Use only gravel, fill, sand, and rock that is judged to be weed free by the Forest Service.

IW-4 - Report newly identified invasive weed populations in the project area to the Forest Service for inclusion in future invasive weed treatment plans.

IW-5 - Limit the potential for off-site mud dispersal as well as weed seed transport by limiting activities to dry (non-muddy) conditions or when plants are seeding.

IW-6 – If road blading, brushing, or ditch cleaning must occur in areas with high concentrations of invasive weeds consult the Forest Service, and apply invasive plant prevention practices as appropriate.

IW-7-- No decking, landing, piling, staging, or parking will be allowed on documented or newly found weed infestations for the duration of the project.

IW-8-- Known weed sites should receive treatment before work commences and annually thereafter for the duration of the project. Continue to treat weed sites as needed upon completion of project.

IW-9-- Ground disturbed by harvest processing activities and large burn piles, where native vegetation has been highly impacted, will be revegetated by following National Forest policy and Best Management Practices.

Visuals:

VI-1—Mitigate visual effects of harvest operations visible from the road and recreation sites through practices such as grinding stumps, slope cut of stump away from viewpoints, low cut stumps, and allow ground vegetation and brush to grow as cover.

VI-2-- Locate landings out of sight of Lostine River Road and recreation sites, where feasible.

VI-3 – Reduce visibility of excessive ground disturbance adjacent to Lostine River Road by raking duff or debris across the disturbed soil, or scatter chip material across the disturbance,

after completion of project.

VI-4-- Slash piles that may be seen from the roadway or recreation sites will be mitigated (piled for burning, chipped, or removed from site) after completion of project.

Botanical:

BT-1-- Within treatment areas that Region 6 sensitive plants² and/or Wild and Scenic River Outstandingly Remarkable Value Species³ are known to occur (via past surveys or pre-implementation stand monitoring) apply applicable avoidance mitigation measures for specific species.

BT-2-- If hazardous tree conditions are identified within Region 6 sensitive plant and/or Wild and Scenic River Outstandingly Remarkable Value Species plant site(s), directionally fall trees away from the site to the degree that can be safely accomplished. When a tree cannot be felled away from the site, then fall and leave it on-site, unless leaving on site conflicts with visuals, recreation, or hazardous fuel loading.

Wildlife:

WL-1-- Retain downed wood within the standards set in the Eastside Screens. These standards will be applied to the project area as a whole:

Table 3. Retained downed wood standards from Eastside Screens Forest Plan amendment.

Species	Pieces per Acre	Diameter at Small End (inches)	Piece Length (feet)	Total Lineal Length (feet)
Mixed conifer	15-20	8	>8	120 to 160

WL-2-- Protect goshawk nest sites by restricting thinning activities within ½ mile of the nest during the nesting season from March 1 through August 30.

WL-3-- Protect other raptor nests following Forest Service guidelines. These protections could include timing limitations and/or distance buffers.

WL-4-- Retain at least 5 snags that are 10" to 20" dbh per acre, or 4 snags that are 20" dbh or greater, per acre, excluding within hazard tree mitigation zone, administrative sites, and group select units.

Recreation:

RC-1-- Place barriers (using material that fits into the setting such as boulders or pole fencing) to prevent vehicles from traveling off-road into implementation areas.

RC-2-- Provide information on-site (e.g. signs, information shared by Forest Service staff,

² For a list of Region 6 Regional Foresters Sensitive Species potentially found within the project area see Botanical Report.

³ For a list of Wild and Scenic River Outstandingly Remarkable Value Species potentially found within the project area see Botanical Report.

flyers) to inform public about the project and rehabilitation.

RC-3-- Locate group openings at least 500 ft from perimeter of developed campgrounds, except the helispot site at Turkey Flats.

RC-4-- Avoid chainsaw and heavy equipment use within 500 ft of developed sites during peak visitation (July 1-September 30).

RC-5-- Locate fuelwood decks 500 ft from developed site, or restrict firewood cutting during July 1-September 30.

RC-6-- Slash/decks will be chipped or piled/burned at least 200 ft from perimeter of developed sites.

RC-7-- Avoid skidding through campsites, unless conditions (over snow) can mitigate damage to sites.

RC-8-- Avoid damage to site improvements including fire rings, tables, water lines, water troughs, toilets or other constructed features. Flag features as needed to make visible during implementation.

RC-9-- Restrict the timing of hazard tree removal within 200 ft of developed sites to occur outside of primary recreation season, when possible.

Aquatics:

AQ-1-- Refueling and servicing of equipment will occur outside of RHCAs.

AQ-2-- Require approved Spill Prevention Control and Containment Plan (SPCCP) for all operations, and assure petroleum product spills will be promptly reported.

AQ-3-- Landings, decks, and temporary roads will not be located in RHCAs.

AQ-4-- Mechanical equipment will not travel off of the Lostine River Road to implement hazard tree treatments.

AQ-5-- Landings will be rehabilitated after completion of timber harvest activities where needed to minimize bare soil conditions. Techniques may include subsoiling or scarifying, and seeding with a native herbaceous seed mix recommended by the Forest Service.

AQ-6-- BMPs (e.g. scattering slash, seeding, water bars) will be used as appropriate to minimize erosion from skid trails.

Table 4. Summary of operation design features:

Unit	Complete in one operating season	Wet weather haul*	Firewood Decks	Seasonal Harvest Restriction	Winter Logging Conditions Required	Remarks
Roadside Thinning	N	Y	N	N	N	
2 & 3	N	Y	N	Y	N	Units 2 & 3 to be treated as roadside units with no skidding or temp road construction that would otherwise require winter logging to avoid spread of meadow hawkweed.
4	N	Y	N	Y	Y	Meadowhawk weed
5 & 6	N	Y	N	Y 3/15 to 9/15 for Goshawks	Y	Meadowhawk weed & goshawk nest
7	N	Y	N	Y 3/15 to 9/15 for Goshawks	Y	Meadowhawk weed & goshawk nest
8	N	Y	Y	N	Y	Meadowhawk weed
9	Y	N	Y	N	N	To limit the disruption at dispersed campsite
10	N	N	Y	Y	N	
11	N	N	Y	N	N	
12	N	N	N	N	N	
13 & 14	N	N	N	N	N	
15	Y	N	N	Y	N	Limit disruption at Francis/Bauman T.H., Irondyke C.G. & outfitter's cabin
16	N	N	N	N	N	
17	Y	N	Y	Y 4/1 to 8/31 for Cooper's hawk	N	Limit disruption at Turkey Flats C.G. & dispersed campsite
18	N	N	Y	N	N	
19	N	N	N	Y	N	
20	N	N	N	N	N	
21	Y	N	N	Y	N	Limit disruption at Shady C.G.
22	N	N	N	N	N	
23	Y	N	N	Y	N	Limit disruption at Two Pan Horse Camp

* For units 2-8 wet weather haul is permitted due to the haul route having a rocked surface. For units 9-23 haul will be over an un-rocked surface and will occur during dry or frozen conditions.